Journal of Applied Microbiology

Edited by

A. F. Godfree

Volume 93, 2002

Copyright © 2002 by The Society for Applied Microbiology

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the Society

ISSN 1364-5072

Published by
Blackwell Publishing Ltd
OXFORD EDINBURGH BOSTON
MELBOURNE BERLIN VIENNA

Printed in Great Britain

Contents

Volume 93, Issue 1, July 2002

1 Instruction for Authors

7 Prevalence of verotoxin-producing *Escherichia coli* (VTEC) and *E.coli* O157:H7 in French pork *J. Bouvet, M.P. Montet, R. Rossel, A. Le Roux, C. Bavai, S. Ray-Gueniot, C. Mazuy, V. Atrache & C. Vernozy-Rozand*

15 Salt stress induces programmed cell death in prokaryotic organism *Anabaena S.-B. Ning, H.-L. Guo, L. Wang & Y.-C. Song*

29 Verotoxin-producing *Escherichia coli* (VTEC), enteropathogenic *E. coli* (EPEC) and necrotoxigenic *E. coli* (NTEC) isolated from healthy cattle in Spain *J.A. Orden, D. Cid, J.A. Ruiz-Santa-Quiteria, S. García, S. Martínez & R. de la Fuente*

36 Comparison of genotypic and phenotypic techniques for assessing the variability of the fungus *Epicoccum nigrum F. Arenal, G. Platas, J. Martin, F.J. Asensio, O. Salazar, J. Collado, F. Vicente, A.B Basilio, C. Ruibal, I. Royo, N. De Pedro & F. Peláez*

46 Immunoassays to detect the serum antibody response of cattle to infection with *Salmonella* Typhimurium definitive type 104 and following vaccination with Bovivac S® *H. Chart, M.C. Pearce, D. Mellor, D.J. Shaw & D. Brown*

52 Cloning and sequencing of the gene encoding X-prolyl-dipeptidyl aminopeptidase (PepX) from *Streptococcus thermophilus* strain ACA-DC 4 *R. Anastasiou, M. Papadelli, M.D. Georgalaki, G. Kalantzopoulos & E. Tsakalidou*

60 Oligonucleotide probe for detecting Enterobacteriaceae by *in situ* hybridization *M. Ootsubo, T. Shimizu, R. Tanaka, T. Sawabe, K. Tajima, M. Yoshimizu, Y. Ezura, T. Ezaki & H. Oyaizu*

69 *Escherichia coli* survival in groundwater and effluent measured using a combination of propidium iodide and the green fluorescent protein *N. Banning, S. Toze & B.J. Mee*

77 Phenotypic study by numerical taxonomy of strains belonging to the genus *Aeromonas L. Valera & C. Esteve*

96 Adaptive resistance to benzalkonium chloride, amikacin and tobramycin: the effect on susceptibility to other antimicrobials *J.A. Joynson, B. Forbes & R.J.W. Lambert*

108 Entry of *Vibrio harveyi* and *Vibrio fischeri* into the viable but nonculturable state *N. Ramaiah, J. Ravel, W.L. Straube, R.T. Hill & R.R. Colwell*

117 Sequence analysis of the genes encoding for the major virulence factors of *Bacillus anthracis* vaccine strain 'Carbosap' *R. Adone, P. Pasquali, G. La Rosa, C. Marianelli, M. Muscillo, A. Fasanella, M. Francia & F. Ciuchini*

122 Transformation and expression of an anaerobic fungal xylanase in several strains of the rumen bacterium *Butyrivibrio fibrisolvens K.S. Gobius, G.-P. Xue, J.H. Aylward, B.P. Dalrymple, Y.J. Swadling, C.S. McSweeney & D.O. Krause*

134 *Lactococcus lactis* DPC5598, a plasmid-free derivative of a commercial starter, provides a valuable alternative host for culture improvement studies *M. Trotter, R.P. Ross, G.F. Fitzgerald & A. Coffey*

144 Interaction of ozone and negative air ions to control micro-organisms *L. Fan, J. Song, P.D. Hildebrand & C.F. Forney*

149 Usefulness of a TaqMan-based polymerase chain reaction assay for the detection of the fish pathogen *Flavobacterium psychrophilum A. del Cerro, M.C. Mendoza & J.A. Guijarro*

157 Influence of resistant starch on the SCFA production and cell counts of butyrate-producing *Eubacterium* spp. in the human intestine *A. Schwiertz, U. Lehmann, G. Jacobasch & M. Blaut*

163 Phenotypic degeneration occurs during sector formation in *Metarhizium anisopliae M.J. Ryan, P.D. Bridge, D. Smith & P. Jeffries*

169 Cross-contamination of carcasses and equipment during pork processing *K. Warriner, T.G. Aldsworth, S. Kaur & C.E.R. Dodd*

178 Calorimetric determination of inactivation parameters of micro-organisms *J. Lee & G. Kaletunç*

190 Corrigendum

Volume 93, Issue 2, August 2002

191 Inhibition of *Listeria monocytogenes* in chicken cold cuts by addition of sakacin P and sakacin P-producing *Lactobacillus sakei T. Katla, T. Møretro, I. Sveen, I.M. Aasen, L. Axelsson, L.M. Rørvik & K. Naterstad*

197 Phytate degradation by micro-organisms in synthetic media and pea flour *M. Fredrikson, T. Andlid, A. Haikara & A.-S. Sandberg*

205 Enzymes from isolates of *Pseudomonas fluorescens* involved in food spoilage *S. Rajmohan, C.E.R. Dodd & W.M. Waites*

214 Bacterial flora from the gut of the wild and cultured banana prawn, *Penaeus merguiensis* *A.P.A. Oxley, W. Shipton, L. Owens & D. McKay*

224 Biomineralization of an organophosphorus pesticide, Monocrotophos, by soil bacteria *B.J. Bhadbhade, S.S. Sarnaik & P.P. Kanekar*

235 Applied technique for increasing calicivirus detection in shellfish extracts *W. Burkhardt III, G.M. Blackstone, D. Skilling & A.W. Smith*

241 Genetic basis of quinolone resistance and epidemiology of resistant and susceptible isolates of porcine *Campylobacter coli* strains *R. Cooper, H. Segal, A.J. Lastovica & B.G. Elisha*

250 A PCR test for detecting *Escherichia coli* O157:H7 based on the identification of the small inserted locus (SIL_{O157}) *S. Perelle, P. Fach, F. Dilasser & J. Grout*

261 Detection and identification of *Vibrio scophthalmi* in the intestinal microbiota of fish and evaluation of host specificity *M. Cerdà-Cuellar & A.R. Blanch*

269 Combined analysis of supernatant-based feeding bioassays and PCR as a first-tier screening strategy for *Vip*-derived activities in *Bacillus thuringiensis* strains effective against tropical fall armyworm *L.L. Loguercio, M.L. Barreto, T.L. Rocha, C.G. Santos, F.F. Teixeira & E. Paiva*

278 Genetic diversity and technological properties of *Streptococcus thermophilus* strains isolated from dairy products *D. Mora, M.G. Fortina, C. Parini, G. Ricci, M. Gatti, G. Giraffa & P.L. Manachini*

288 Persistence of *Escherichia coli* O157:H7 in barley silage: effect of a bacterial inoculant *S.J. Bach, T.A. McAllister, J. Baah, L.J. Yanke, D.M. Veira, V.P.J. Gannon & R.A. Holley*

295 Effect of L-malic and citric acids metabolism on the essential amino acid requirements for *Oenococcus oeni* growth *F.M. Saguir & M.C. Manca de Nadra*

302 Antibacterial activity of surfactants against *Escherichia coli* cells is influenced by carbon source and anaerobiosis *S. Ishikawa, Y. Matsumura, K. Katoh-Kubo & T. Tsuchido*

310 A novel polymer produced by a bacterium isolated from a deep-sea hydrothermal vent polychaete annelid *M.-A. Cambon-Bonavita, G. Raguénès, J. Jean, P. Vincent & J. Guezennec*

316 Studies on the mechanism of killing of *Bacillus subtilis* spores by hydrogen peroxide *E. Melly, A.E. Cowan & P. Setlow*

326 Effects of pulsed electric fields on inactivation and metabolic activity of *Lactobacillus plantarum* in model beer *H.M. Ulmer, V. Heinz, M.G. Gänzle, D. Knorr & R.F. Vogel*

336 Comparative susceptibility of resident and transient hand bacteria to para-chloro-meta-xylenol and triclosan *S.A. Johnson, P.A. Goddard, C. Iliffe, B. Timmins, A.H. Rickard, G. Robson & P.S. Handley*

345 Antagonistic interactions amongst bacteriocin-producing enteric bacteria in dual species biofilms *K. Tait & I.W. Sutherland*

353 Integrated polymerase chain reaction-based procedures for the detection and identification of species and subspecies of the Gram-positive bacterial genus *Lactococcus* *Z.Y. Pu, M. Dobos, G.K.Y. Limsowtin & I.B. Powell*

Volume 93, Issue 3, September 2002

363 Microbial interaction in cooked cured meat products under vacuum or modified atmosphere at 4°C *J. Metaxopoulos, M. Mataragas & E.H. Drosinos*

374 Chitinolytic activities in *Bacillus thuringiensis* and their synergistic effects on larvicidal activity *M. Liu, Q.X. Cai, H.Z. Liu, B.H. Zhang, J.P. Yan & Z.M. Yuan*

380 Isolation and characterization of a *Mycobacterium* strain that metabolizes the insecticide endosulfan *T.D. Sutherland, I. Horne, R.L. Harcourt, R.J. Russell & J.G. Oakeshott*

390 Manipulation of colonic bacteria and volatile fatty acid production by dietary high amylose maize (amylomaize) starch granules *X. Wang, I.L. Brown, D. Khaled, M.C. Mahoney, A.J. Evans & P.L. Conway*

398 Garlic (*Allium sativum*) as an anti-*Candida* agent: a comparison of the efficacy of fresh garlic and freeze-dried extracts *K.M. Lemar, M.P. Turner & D. Lloyd*

406 Clinical prevalence and antimicrobial susceptibility of *Staphylococcus aureus* and *Staph. intermedius* in dogs *K.A. Hoekstra & R.J.L. Paulton*

414 Virulence markers in *Aeromonas hydrophila* and *Aeromonas veronii* biovar *sobria* isolates from freshwater fish and from a diarrhoea case *C.J. González-Serrano, J.A. Santos, M.L. García-López & A. Otero*

420 Biochemical identification and numerical taxonomy of *Aeromonas* spp. isolated from environmental and clinical samples in Spain *D. Miñana-Galbis, M. Farfán, J.G. Loren & M.C. Fusté*

431 *In situ* characterization of nitrifiers in an activated sludge plant: detection of *Nitrobacter* Spp. *G. Coskuner & T.P. Curtis*

438 Vibrios isolated from the cultured manila clam (*Ruditapes philippinarum*): numerical taxonomy and antibacterial activities *D. Castro, M.J. Pujalte, L. Lopez-Cortes, E. Garay & J.J. Borrego*

448 Determining the spatial distribution of viable and nonviable bacteria in hydrated microcosm dental plaques by viability profiling *C.K. Hope, D. Clements & M. Wilson*

456 Characterization of a repetitive element polymorphism-polymerase chain reaction chromosomal marker that discriminates *Bacillus anthracis* from related species *A. Cherif, S. Borin, A. Rizzi, H. Ouzari, A. Boudabous & D. Daffonchio*

463 Evidence that RDX biodegradation by *Rhodococcus* strain DN22 is plasmid-borne and involves a cytochrome p-450 *N.V. Coleman, J.C. Spain & T. Duxbury*

473 Prevalence of verotoxin-producing *Escherichia coli* (VTEC) in slurry, farmyard manure and sewage sludge in France *C. Vernozy-Rozand, M.P. Montet, F. Lequerrec, E. Serillon, B. Tilly, C. Bavai, S. Ray-Gueniot, J. Bouvet, C. Mazuy-Cruchaudet & Y. Richard*

479 Acid tolerance of *Shigella sonnei* and *Shigella flexneri* *C.F. Bagamboula, M. Uyttendaele & J. Debevere*

487 Oral bacteria influenced by the functional status of the elderly people and the type and quality of facilities for the bedridden *A. Tada, T. Watanabe, H. Yokoe, N. Hanada & H. Tanzawa*

492 Nitrite inhibits hydrogen production and kills the cattle parasite *Tritrichomonas foetus* *D. Lloyd, A.S. Williams & C.J. James*

497 Interactions between the unicellular red alga *Rhodella reticulata* (Rhodophyta) and contaminated bacteria *T.G. Toncheva-Panova & J.G. Ivanova*

505 Comparison of the *in vitro* bifidogenic properties of pectins and pectic-oligosaccharides *E. Olano-Martin, G.R. Gibson & R.A. Rastall*

512 Characterization of a bacteriocin produced by a newly isolated *Bacillus* sp. Strain 8A *D. Bizani & A. Brandelli*

Volume 93, Issue 4, October 2002

521 Clustering of *Saccharomyces boulardii* strains within the species *S. cerevisiae* using molecular typing techniques *G. Mitterdorfer, H.K. Mayer, W. Kneifel & H. Viernstein*

531 Phenotypic and molecular characterization of chickpea rhizobia isolated from different areas of Morocco *J. Maâtallah, E.B. Berraho, S. Muñoz, J. Sanjuan & C. Lluch*

541 The prevalence and number of *Salmonella* in sausages and their destruction by frying, grilling or barbecuing *K.L. Mattick, R.A. Bailey, F. Jørgensen & T.J. Humphrey*

548 Development of an enzyme assay for rapid assessment of *Escherichia coli* in seawaters *G. Caruso, E. Crisafi & M. Mancuso*

557 Enumeration of faecal coliforms from recreational coastal sites: evaluation of techniques for the separation of bacteria from sediments *D.L. Craig, H.J. Fallowfield & N.J. Cromar*

566 Antifungal activities of two *Lactobacillus plantarum* strains against *Fusarium* moulds *in vitro* and in malting of barley *A. Laitila, H.-L. Alakomi, L. Raaska, T. Mattila-Sandholm & A. Haikara*

577 Diversity among *Bradyrhizobium* isolates nodulating yardlong bean and sunnhemp in Guam *Z. You, M. Marutani & D. Borthakur*

585 Comparative surface-to-hand and fingertip-to-mouth transfer efficiency of gram-positive bacteria, gram-negative bacteria, and phage *P. Rusin, S. Maxwell & C. Gerba*

593 A comparison between broiler chicken carcasses with and without visible faecal contamination during the slaughtering process on hazard identification of *Salmonella* spp. *S.M. Jiménez, M.S. Salsi, M.C. Tiburzi & M.E. Pirovani*

599 Application of laser scanning cytometry followed by epifluorescent and differential interference contrast microscopy for the detection and enumeration of *Cryptosporidium* and *Giardia* in raw and potable waters *M.-R. de Roubin, J.-S. Pharamond, F. Zanelli, F. Poty, S. Houdart, F. Laurent, J.-L. Drocourt & S. van Poucke*

608 *Saccharomyces cerevisiae* wine yeast populations in a cold region in Argentinean Patagonia. A study at different fermentation scales *C.A. Lopes, M. van Broock, A. Querol & A.C. Caballero*

616 Diversity of *Burkholderia* isolates from woodland rhizosphere environments *J. Richardson, D.E. Stead, J.G. Elphinstone & R.H.A. Coutts*

631 Isolation and characterization of a mutant strain of *Streptococcus uberis*, which fails to utilize a plasmin derived β-casein peptide for the acquisition of methionine *A.J. Smith, A.J. Kitt, P.N. Ward & J.A. Leigh*

640 Bacteriology of the Labrador dog gut: a cultural and genotypic approach *H.L. Greetham, C. Giffard, R.A. Hutson, M.D. Collins & G.R. Gibson*

647 Amplification of RNA by NASBA allows direct detection of viable cells of *Ralstonia solanacearum* in potato *L. Bentsink, G.O.M. Leone, J.R.C.M. van Beckhoven, H.B. van Schijndel, B. van Gemen & J.M. van der Wolf*

656 An arsenic(III)-oxidizing bacterial population: selection, characterization, and performance in reactors *F. Battaglia-Brunet, M.-C. Dictor, F. Garrido, C. Crouzet, D. Morin, K. Dekeyser, M. Clarens & P. Baranger*

668 Culture conditions influencing phytase production of *Mitsuokella jalaludinii*, a new bacterial species from the rumen of cattle *G.Q. Lan, N. Abdullah, S. Jalaludin & Y.W. Ho*

675 PCR detection of potentially pathogenic aeromonads in raw and cold-smoked freshwater fish *M.N. González-Rodríguez, J.A. Santos, A. Otero & M.L. García-López*

681 Amplified fragment length polymorphism (AFLP) and biochemical typing of *Photobacterium damselae* subsp. *damselae S. Botella, M.-J. Pujalte, M.-C. Macián, M.-A. Ferrús, J. Hernández & E. Garay*

689 Protective effects of cold temperature and surface-contact on acid tolerance of *Salmonella* spp. *P.V. Gawande & A.A. Bhagwat*

697 Ascopyrone P, a novel antibacterial derived from fungi *L.V. Thomas, S. Yu, R.E. Ingram, C. Refdahl, D. Elsser & J. Delves-Broughton*

706 Survival of *Escherichia coli* O157:H7 in farm water: its role as a vector in the transmission of the organism within herds *P. McGee, D.J. Bolton, J.J. Sheridan, B. Earley, G. Kelly & N. Leonard*

714 Influence of pH, temperature and culture media on the growth and bacteriocin production by vaginal *Lactobacillus salivarius* CRL 1328 *M.S. Juarez Tomás, E. Bru, B. Wiese, A.A.P. de Ruiz Holgado & M.E. Nader-Macías*

Volume 93, Issue 5, November 2002

725 Peracetic acid as an alternative wastewater disinfectant to chlorine dioxide *S. Stampi, G. De Luca, M. Onorato, E. Ambrogiani & F. Zanetti*

732 Investigation of the genetic diversity among isolates of *Salmonella enterica* serovar Dublin from animals and humans from England, Wales and Ireland *E. Liebana, L. Garcia-Migura, C. Clouting, C.A. Cassar, F.A. Clifton-Hadley, E.A. Lindsay, E.J. Threlfall, S.A. Chappell & R.H. Davies*

745 Evaluation of integrated cell culture-PCR (C-PCR) for virological analysis of environmental samples *G.E. Greening, J. Hewitt & G.D. Lewis*

751 Extra- and intra-cellular lytic effects of *Cytophaga* sp. LR2 on the red microalgae *Rhodella reticulata T. Toncheva-Panova, A. Donchev, M.I. Dimitrov & J. Ivanova*

758 Identification of the O-antigen biosynthesis genes of *Escherichia coli* O91 and development of a O91 PCR serotyping test *S. Perelle, F. Dilasser, J. Grout & P. Fach*

765 Antimicrobial activity of methyl *cis*-7-oxo deisopropyl-dehydroabietate on *Botrytis cinerea* and *Lophodermium seditiosum*: ultrastructural observations by transmission electron microscopy *S. Savluchinske Feio, S. Franca, A.M. Silva, B. Gigante, J.C. Roseiro & M.J. Marcelo Curto*

772 Isolation and characterization of a novel *Bacillus* strain from coffee phyllosphere showing antifungal activity *J.R. Nair, G. Singh & V. Sekar*

781 A collaborative study of a method for enumeration of probiotic enterococci in animal feed *R.G.K. Leuschner, J. Bew, K.J. Domig & W. Kneifel*

787 The identification of the transcriptional regulator CRP in *Aeromonas hydrophila* JMP636 and its involvement in amylase production and the 'acidic toxicity' effect *S.P. Kidd & J.M. Pemberton*

794 Effect of bile on the lipid composition and surface properties of bifidobacteria *A. Gómez Zavaglia, G. Kociubinski, P. Pérez, E. Disalvo & G. De Antoni*

800 Hygiene measures considering actual distributions of microorganisms in Japanese households *M. Ojima, Y. Toshima, E. Koya, K. Ara, H. Tokuda, S. Kawai, F. Kasuga & N. Ueda*

810 *Kytococcus sedentarius*, the organism associated with pitted keratolysis, produces two keratin-degrading enzymes *C.M. Longshaw, J.D. Wright, A.M. Farrell & K.T. Holland*

817 The abattoir source of culturable psychrophilic *Clostridium* spp. causing 'blown pack' spoilage of vacuum-packed chilled venison *D.M. Broda, R.G. Bell, J.A. Boerema & D.R. Musgrave*

825 Quantification of microcystin-producing cyanobacteria and *E. coli* in water by 5′-nuclease PCR *I.V. Foulds, A. Granacki, C. Xiao, U.J. Krull, A. Castle & P.A. Horgen*

835 Construction of green fluorescent protein (GFP)-marked strains of *Bradyrhizobium* for ecological studies *R. Bhatia, R.C. Dogra & P.K. Sharma*

840 Detection of *Clavibacter michiganensis* subsp. *sepedonicus* by AmpliDet RNA, a new technology based on real time monitoring of NASBA amplicons with a molecular beacon *J.R.C.M. van Beckhoven, D.E. Stead & J.M. van der Wolf*

850 Antibacterial activity of pepsin-digested lactoferrin on foodborne pathogens in buffered broth systems and ultra-high temperature milk with EDTA *C.A. Murdock & K.R. Matthews*

857 The sensitivity to honey of Gram-positive cocci of clinical significance isolated from wounds *R.A. Cooper, P.C. Molan & K.G. Harding*

864 Survival of faecal indicator bacteria in tropical estuarine waters (Bangpakong River, Thailand) *A.A. Bordalo, R. Onrassami & C. Dechsakulwatana*

872 Combined S99/RB51 antigen for complement fixation test for serological diagnosis of brucellosis in cattle and sheep *R. Adone, F. Ciuchini, C. Pistoia & P. Pasquali*

877 Effects of low electric treatment on yeast microflora *G. Ranalli, M. Iorizzo, G. Lustrato, E. Zanardini & L. Grazia*

884 Characterization and selection of vaginal *Lactobacillus* strains for the preparation of vaginal tablets *P. Mastromarino, P. Brigidi, S. Macchia, L. Maggi, F. Pirovano, V. Trinchieri, U. Conte & D. Matteuzzi*

894 Comparison of *Candida dubliniensis* and *C. albicans* based on polar lipid composition *A. Zarei Mahmoudabadi, C.E. Radcliffe, D.C. Coleman & D.B. Drucker*

900 Variable response to exogenous *Lactobacillus acidophilus* NCFM® consumed in different delivery vehicles *J. Varcoe, C. Zook, J. Sui, S. Leighton, F. Busta & L. Brady*

907 16S ribosomal DNA analysis of the faecal lactobacilli composition of human subjects consuming a probiotic strain *Lactobacillus acidophilus* NCFM® *J. Sui, S. Leighton, F. Busta & L. Brady*

913 Corrigendum

Volume 93, Issue 6, December 2002

915 Microbial surfactants and their use in field studies of soil remediation *N. Christofi & I.B. Ivshina*

930 Statistical medium optimization and production of a hyperthermostable lipase from *Burkholderia cepacia* in a bioreactor *P. Rathi, V.K. Goswami, V. Sahai & R. Gupta*

937 Sterilization of plastic containers using electron beam irradiation directed through the opening *D.A. Cleghorn, J. Dunn & S.V. Nablo*

944 An eight-month study of a population of verocytotoxigenic *Escherichia coli* (VTEC) in a Scottish cattle herd *C. Jenkins, M.C. Pearce, H. Chart, T. Cheasty, G.A. Willshaw, G.J. Gunn, G. Dougan, H.R. Smith, B.A. Synge & G. Frankel*

954 Monitoring transfer of recombinant and nonrecombinant plasmids between *Lactococcus lactis* strains and members of the human gastrointestinal microbiota *in vivo* – impact of donor cell number and diet *K. Tuohy, M. Davies, P. Rumsby, C. Rumney, M.R. Adams & I.R. Rowland*

965 Purification and characterization of a thermophilic and acidophilic chitinase from *Microbispora* sp. V2 *N.N. Nawani, B.P. Kapadnis, A.D. Das, A.S. Rao & S.K. Mahajan*

976 Distribution of *Aeromonas* spp. as identified by 16S rDNA restriction fragment length polymorphism analysis in a trout farm *C. Lee, J.-C. Cho, S.-H. Lee, D.-G. Lee & S.-J. Kim*

986 Effectiveness of chlorine washing disinfection and effects on the appearance of artichoke and borage *S. Sanz, M. Giménez, C. Olarte, C. Lomas & J. Portu*

994 The EstA esterase is responsible for the main capacity of *Lactococcus lactis* to synthesize short chain fatty acid esters *in vitro* *M. Nardi, C. Fiez-Vandal, P. Tailliez & V. Monnet*

1003 Improved survival of *Lactobacillus paracasei* NFBC 338 in spray-dried powders containing gum acacia *C. Desmond, R.P. Ross, E. O'Callaghan, G. Fitzgerald & C. Stanton*

1012 A *Methylobacterium*-like organism from algal crusts covering silicone rubber electric insulators in Africa *R. Zarnowski, A. Felske, R.J. Ellis, J.M.C. Geuns & S.J. Pietr*

1020 Extracellular enzymatic activity profiles in yeast and yeast-like strains isolated from tropical environments *P. Buzzini & A. Martini*

1026 Serotypes and virulence factors of Shiga toxin-producing *Escherichia coli* isolated from healthy Norwegian sheep *A.M. Urdahl, L. Beutin, E. Skjerve & Y. Wasteson*

1034 Phenotypic characteristics and pathogenicity of *Aeromonas* genomospecies isolated from common carp (*Cyprinus carpio* L.) *A. Kozińska, M.J. Figueras, M.R. Chacon & L. Soler*

1042 Rapid detection of phylloplane bacterium *Enterobacter cloacae* based on chitinase gene transformation and lytic infection by specific bacteriophages *Y. Takikawa, H. Mori, Y. Otsu, Y. Matsuda, T. Nonomura, K. Kakutani, Y. Tosa, S. Mayama & H. Toyoda*

1051 The effect of a quaternary ammonium biocide on the performance and characteristics of laboratory-scale rotating biological contactors *L. Laopaiboon, S.J. Hall & R.N. Smith*

1059 Sterilization of instruments in solar ovens *A.F. Jorgensen, K. Nohr, F. Boisen & J. Nohr*

1065 Impact of biocontrol strain *Pseudomonas fluorescens* CHA0 on rhizosphere bacteria isolated from barley (*Hordeum vulgare* L.) with special reference to *Cytophaga*-like bacteria *J.E. Johansen, S.J. Binnerup, K.B. Lejbolle, F. Mascher, J. Sorensen & C. Keel*

1075 A single phylogenetic analysis of *Bacillus thuringiensis* strains and bacilli species inferred from 16S rRNA gene restriction fragment length polymorphism is congruent with two independent phylogenetic analyses *K.-B. Joung & J.-C. Côté*

1083 Folk yoghurt kills *Helicobacter pylori* *Y. Oh, M.S. Osato, X. Han, G. Bennett & W.K. Hong*

1089 The complete nucleotide sequence of the *Vibrio harveyi* bacteriophage VHML *H.J. Oakey, B.R. Cullen & L. Owens*